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(54) **SYSTEM AND METHOD FOR LISTENING TO TEAMS IN A RACE EVENT**

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(57) **ABSTRACT**

A computer-implemented method and system allows a remote computer user to listen to teams in a race event. The method includes receiving audio signals from a plurality of audio sources at the race event; transmitting at least some of the audio signals to a remote computer; and filtering the audio signals as a function of the source of at least some of the audio signals so that at least some of the audio signals are not played by the remote computer and heard by the user.

82 Claims, 5 Drawing Sheets
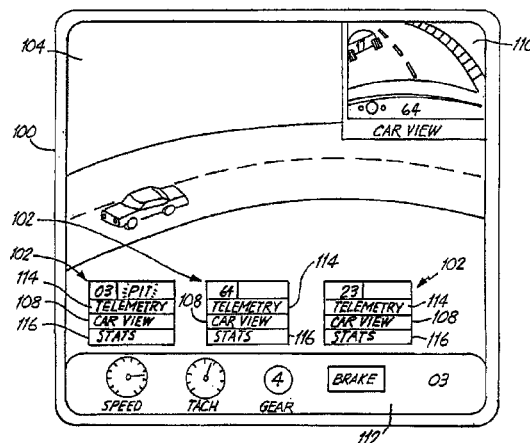
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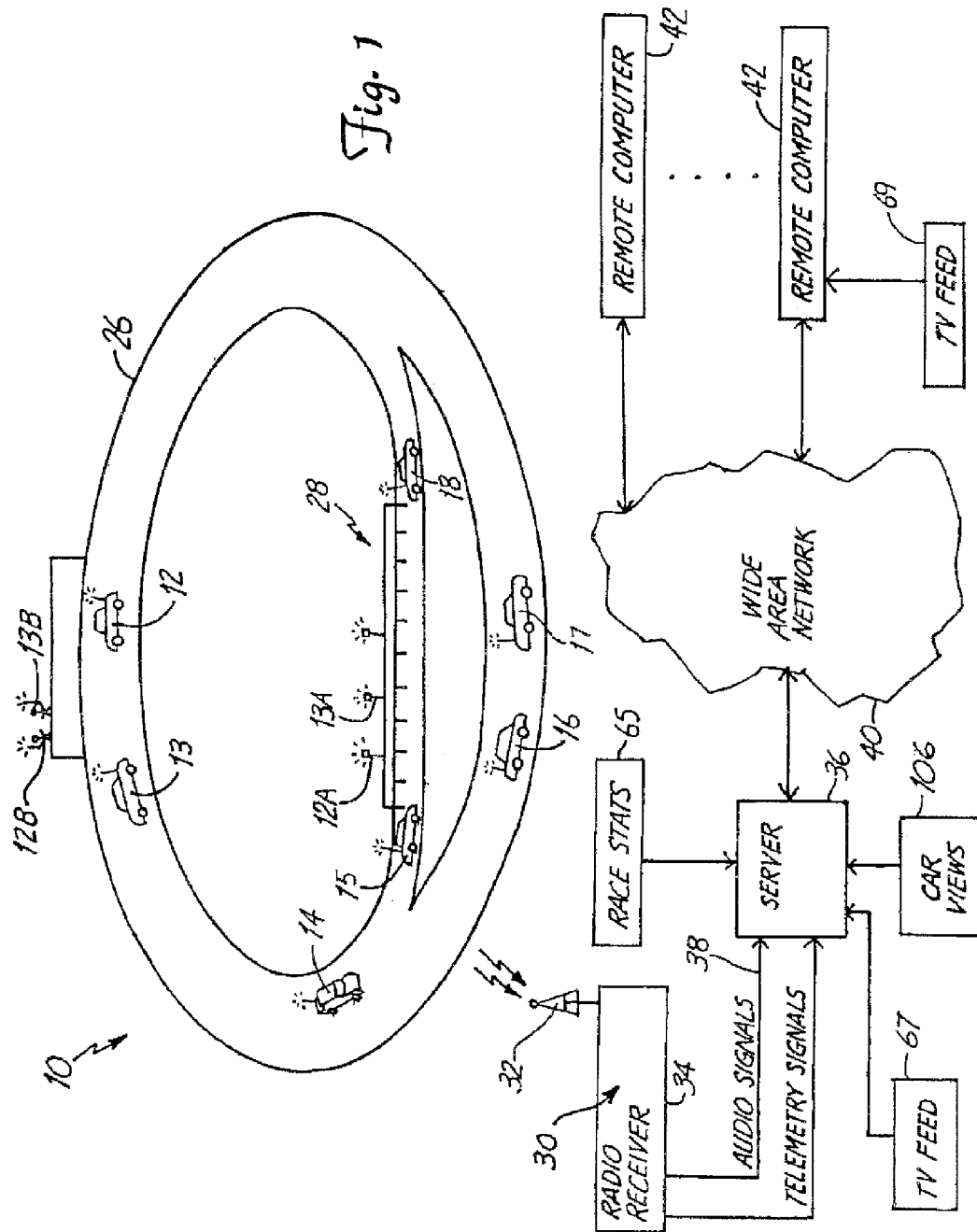
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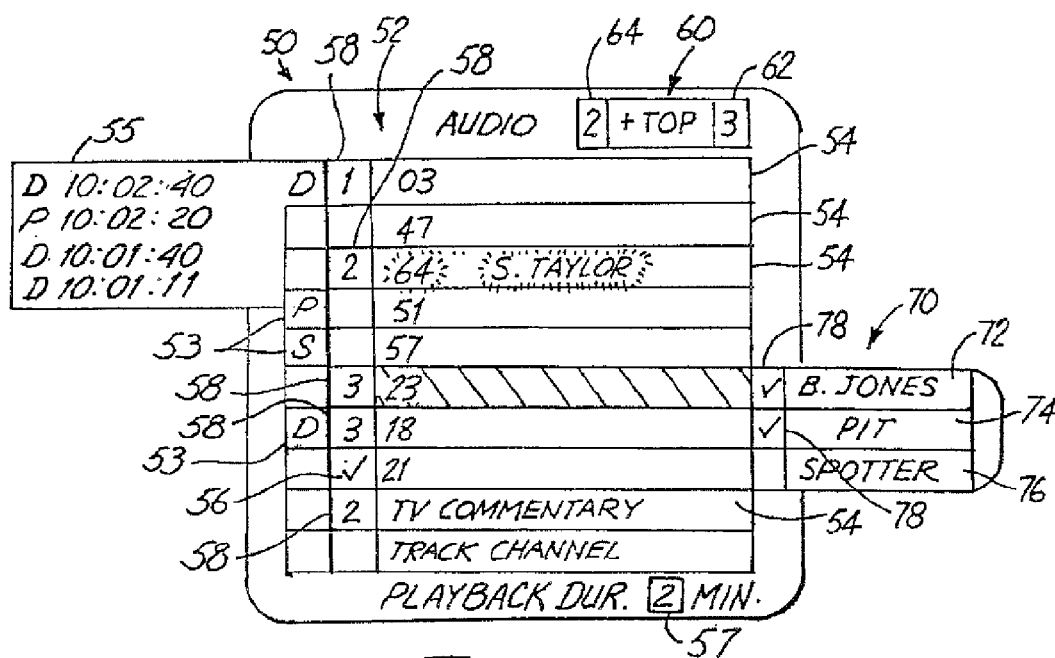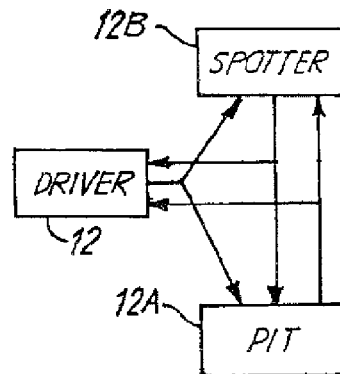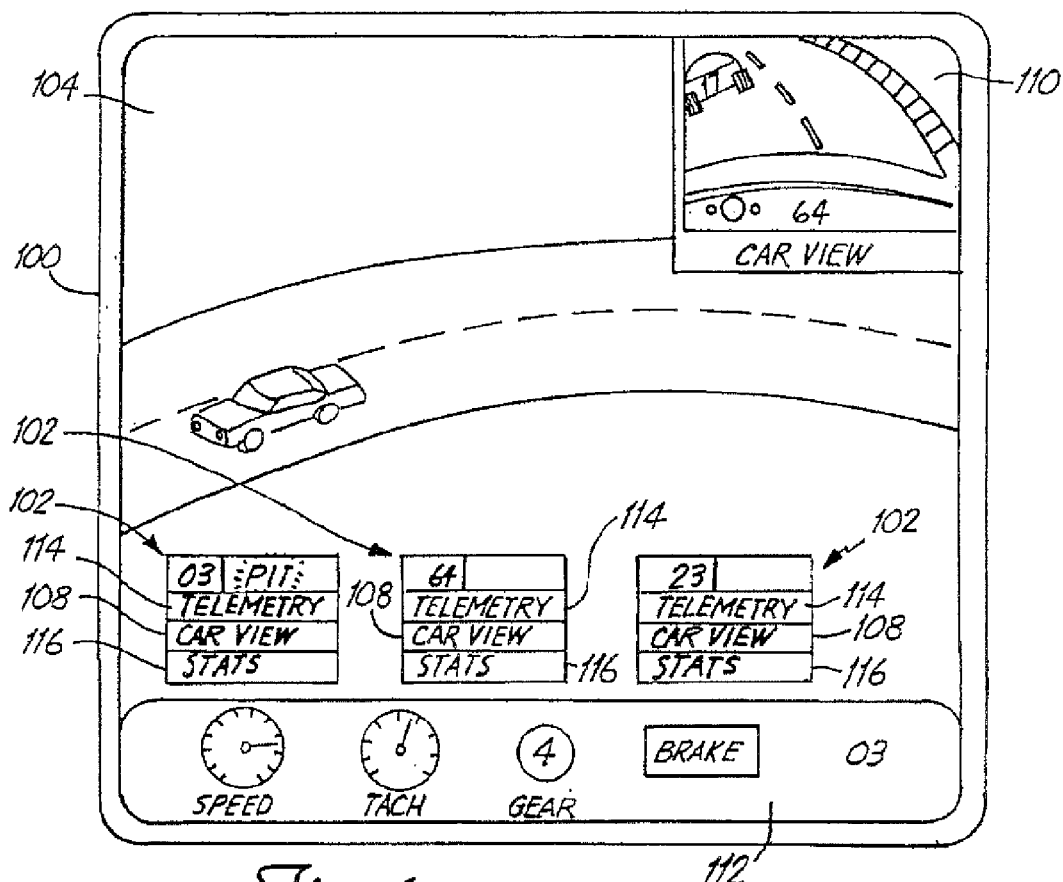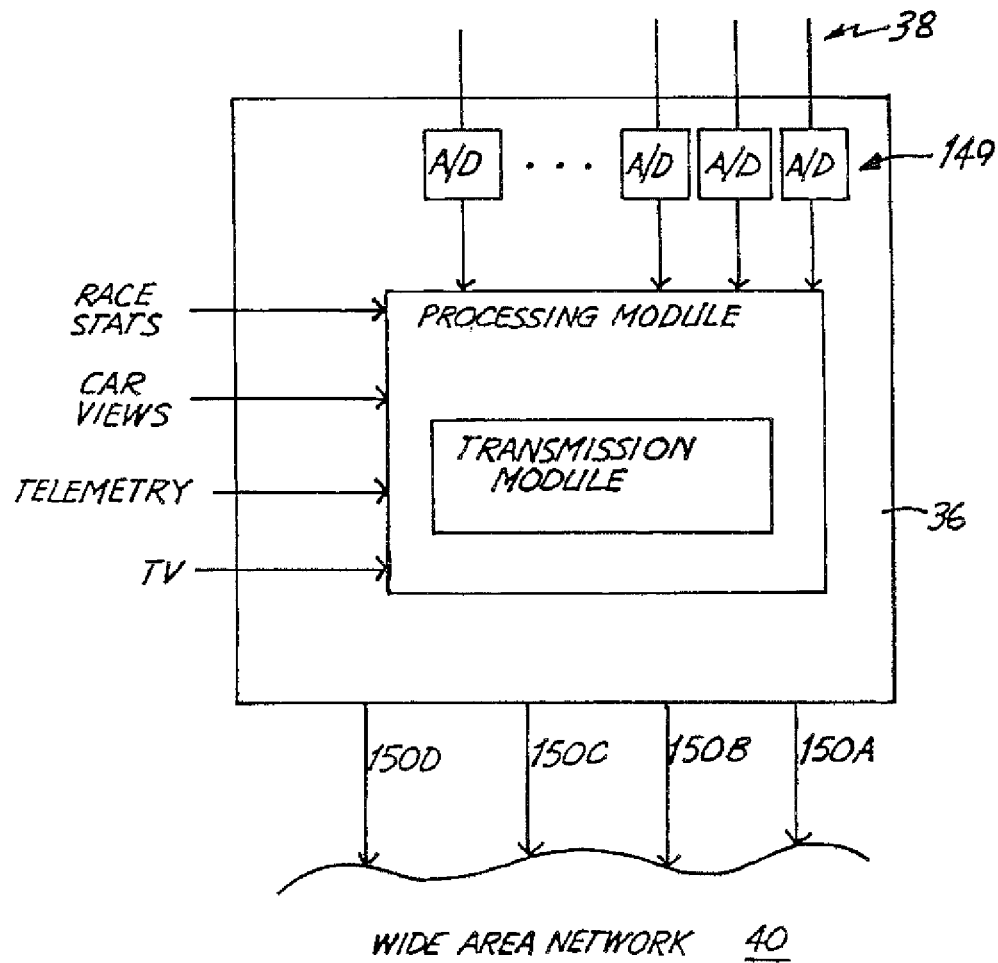
Fig. 1

Fig. 2

Fig 3

Fig. 4

Fig. 5

162 164   160   140

| | | | | | | | 142 | 143 | 144 | 145 | 146 | 147 | 148 |

163 165 167 168
166

Fig. 6

42   177

WIDE
AREA
NETWORK
40

RECEIVER
MODULE
170

MONITOR

D/A   174

D/A   SPEAKER

SPEAKER

180

RACE
STATS
176

USER
PREF
175
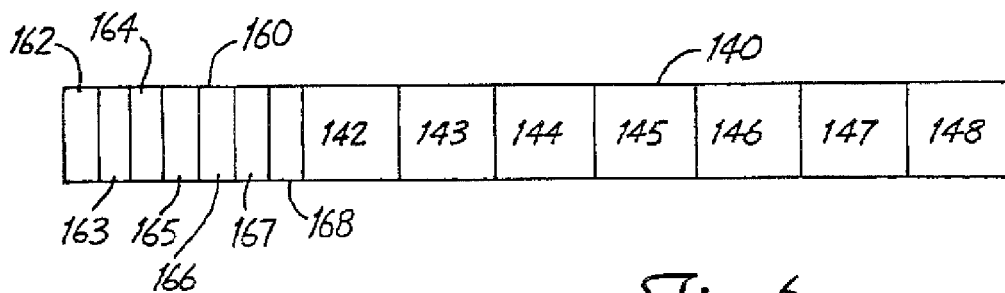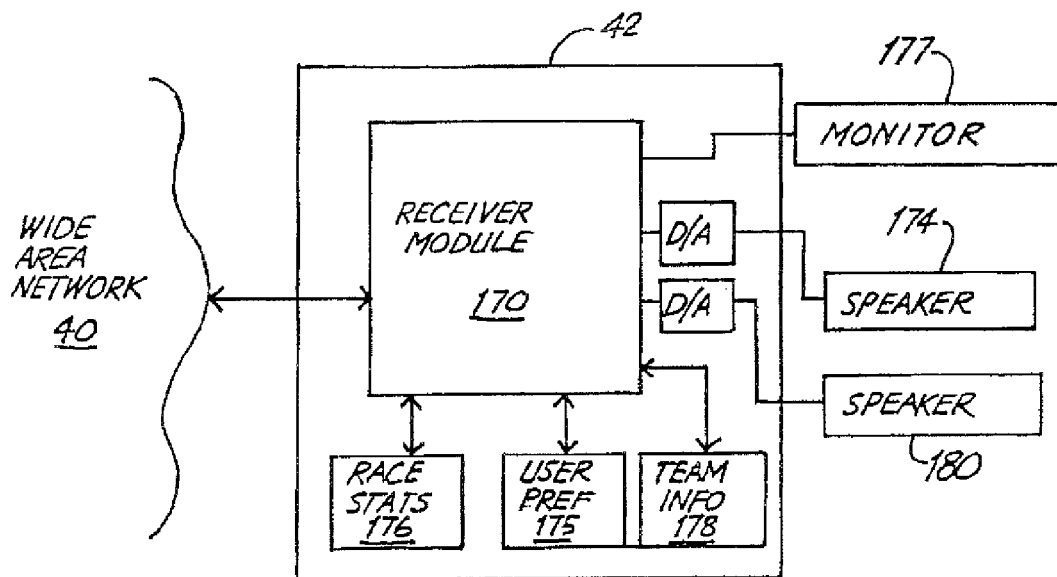
TEAM
INFO
178

Fig. 7

SYSTEM AND METHOD FOR LISTENING TO TEAMS IN A RACE EVENT

CROSS-REFERENCE TO RELATED APPLICATION

This application is a continuation of application Ser. No. 11/620,967, filed Jan. 8, 2007, now U.S. Pat. No. 8,127,037, which is a continuation of application Ser. No. 10/060,800, filed Jan. 30, 2002, now U.S. Pat. No. 7,162,532, which is a continuation-in-part application and claims the priority of Ser. No. 09/128,896, filed Aug. 4, 1998, which claims the benefit of provisional patent application Ser. No. 60/075,659, filed Feb. 23, 1998, all of which are incorporated herein by reference.

BACKGROUND OF THE INVENTION

The present invention relates to race 2004 events. More particularly, the present invention allows a person to listen to communications of race teams participating in a race event where the person is remote from the race event.

Race events, such as motor vehicle racing, are a steadily growing sport. In many forms of racing, a driver communicates with a crew during the race to discuss strategy and vehicle performance. The communications are commonly listened to by fans at the race event, allowing the fans to become more involved during the race. However, the transmitters used are not powerful and are generally limited in range so as to function within the area of the race track. Thus, only those fans at the race have the ability to listen to the race communications. For fans watching the race remotely, such as on television, the communications are not generally available except for occasional excerpts provided by the race broadcaster.

SUMMARY OF THE INVENTION

A computer-implemented method and system allows a remote computer user to listen to teams in a race event. The method includes receiving audio signals from a plurality of audio sources at the race event; transmitting at least some of the audio signals to a remote computer; and filtering the audio signals as a function of the source of at least some of the audio signals so that at least some of the audio signals are not played by the remote computer and heard by the user.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. **1** is a pictorial representation of a race event and a system of the present invention for monitoring race communications and providing the communications to a remote fan.

FIG. **2** is a user interface for selecting which race communications to listen to.

FIG. **3** is a schematic diagram illustrating a channel of communication for one team.

FIG. **4** is a monitor illustrating a form of user interfaces for remotely viewing and listening to a race.

FIG. **5** is a block diagram of a server.

FIG. **6** is a representative view of a data packet.

FIG. **7** is a block diagram of remote computer.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

A race event is illustrated in FIG. **1** at **10**. In the embodiment illustrated, the race event **10** is a motor vehicle race

involving a plurality of cars at **12**, **13**, **14**, **15**, **16**, **17** and **18**. The cars race on an oval track **26**. The track includes a pit area **28** used for periodic refueling and maintenance of the cars **12-18** during the race.

During the race, the driver of each of the cars **12-18** are in communication with team members located in the pit area **28**. The drivers of the cars **12-18** discuss race strategy including when to perform refueling and maintenance on the car during the race. Generally, each team is assigned a particular channel or operating frequency to the exclusion of all other teams so that the driver and the team can communicate easily. In the embodiment illustrated, the driver of car **12** communicates with a team member located in the pit area **28**, designated at **12A**, while the driver of car **13** communicates with a team member **13A**, also in the pit area **28**.

In many race events, additional team members may be located at other areas on the track **26** during the race. For instance, a "spotter" **12B** is also sometimes present during the race. The spotter **12B** watches the race and communicates with the driver of car **12** and the team member **12A** located in the pit area **28**, providing relevant information concerning the race. For example, the spotter **12B** informs the driver of car **12** when he has cleared another car during the race and can safely pass in front the other car. Likewise, a spotter **13B** communicates with the driver of car **13** and the team member **13A** in the pit area **28** similarly. As stated above, each of the teams for the cars **12-18** have team members in the pit area **28** and spotters communicating on separate assigned channels.

FIG. **1** further illustrates a system **30** of the present invention that allows a remote fan to selectively listen to communications made by the team members of each team during the race. The system **30** includes an antenna **32** for picking up all communications made between the team members of each team during the race. A radio receiver **34** is connected to the antenna **32** and provides the communications to a computer **36** as audio signals **38**. The computer **36** is located at the race track **26** or remote therefrom. However, whether located at the track **26** or remote therefrom, the computer **36** is connected to a wide area network **40**, such as the Internet. A remote race fan uses a remote computer **42** connectable to the wide area network **40**, and accesses the computer **36** (hereinafter "server") in order to receive information from the server **36** indicative of the audio signals **38** and, thus, the communications of the race event **10**.

The server **36** and the remote computer **42** can be a personal computer, laptop computer or other suitable computing device connectable to the wide area network **40** using phone lines, cable lines, satellite links, or other suitable communication means. Generally, the remote computer **42** includes a display or monitor, an input device, such as a keyboard or a mouse, and speaker, not shown, but well known. The remote computer **42** further includes a suitable microprocessor and support peripherals such as random access memory (RAM), read only memory (ROM) and storage mediums such as a hard disk, floppy disk/drive and/or optical disk/drive communicating with each other over a system bus, again all well known in the art. Exemplary embodiments of the present invention described below include modules that can be implemented in hardware, software or a combination of both hardware and software.

In a preferred embodiment of the present invention, the remote fan using the remote computer **42** can select any or all of the team communications to listen to during the race. FIG. **2** is an embodiment of a user interface **50** displayable on the monitor of the remote computer **42**. The user interface **50** comprises a list **52** of each of the participants in the race. The list **52** includes unique identifiers **54**, such as the car number

or the team name, for each of the race participants. Using a suitable input device, such as a mouse, the remote fan selects any or all of the participants to listen to during the race using the unique identifiers **54**.

In a first embodiment, selection of a race participant to listen to can be identified by a "check" indicated at **56** for the corresponding identifier **54**. During the race, the communications pertaining to only those selected teams in the list **52** would be provided to the speaker of the remote computer **42** for listening by the remote fan. Communications of teams not selected in the list **52** would be filtered by either the server **36** or the remote computer **42** (if all of the communications are passed through the wide area network **40**), and not provided to the speaker of the remote computer **42**. In this manner, the remote fan can choose which participants to listen to during the race, while ignoring or filtering out all other communications. In a further embodiment, when there exists any communication between the driver, the pit area or the spotter, if present, of a selected participant in the list **52**, the unique identifier **54** corresponding to the communication is uniquely identified in the list **52** so as to signify to the remote fan which team is currently being heard through the speaker of the remote computer **42**. For instance, the unique identifier **54** can flash (as illustrated for team number **64**), be presented in bold face or highlighted when communications are being heard over the speaker of the remote computer **42**. As stated above, typically each team is assigned a unique channel or frequency, thus, identification of each communication is relatively easy.

In a further embodiment, the remote fan can prioritize the selected teams in the list **52**. In the embodiment illustrated, a priority number is indicated at **58** for each of the teams selected. The highest priority team is herein indicated as "1", while the lowest priority team is indicated as "3". By prioritizing, the remote fan can be assured of hearing substantially all communications from a particular team, while still being able to hear most of the communications from other teams. For instance, if communications are currently being heard from a priority "2" team through the speaker of the remote computer **42** and communication starts for a priority "1" team, the audio being played over the speaker of the remote computer **42** will immediately switch to the priority "1" team. Likewise, if a priority "3" team communication is currently being heard and a priority "2" team communication begins, the speaker of the remote computer **42** will then start providing the priority "2" team communication. However, if during the playing of a communication, a lower priority communication begins, the lower priority communication will not be delivered by the speaker of the remote computer **42** until the communication of the higher priority communications suspends, which is typically signified by silence for a given time period. In addition, if during the communication of a priority team, another communication of a team having the same priority begins, the communication of the first playing team will not suspend until the communication is over. At that time, the communication of the other team having the same priority will then begin.

In a further embodiment, the list **52** can include other audio sources such as TV commentary provided by a broadcaster televising the race event **10**. The list **52** can also include race or track officials broadcasting on a radio frequency at the race event **10**, which is typically only heard by fans or participants at the race event **10**. Like the teams in the list **52**, the TV commentary and track channel can also be selected and/or prioritized in the manner described above.

The TV commentary can be provided to the server **36** as indicated at **67** or to the remote computer **42** as indicated at

69, wherein the TV feed is separately provided to the remote computer **42** or the TV feed and the signals from the wide area network are provided to a single assembly such as a settop box. Communications pertaining to the track channel can be received by the antenna **32** or otherwise provided directly to the server **36**.

In another further embodiment, the remote fan can also select to hear the race leading participants regardless of whether or not they have been selected in the list **52**. A selection field is indicated in the user interface **50** at **60**. The selection field **60** includes a user selectable number of leading participants to listen to at **62**. The selectable number **62** is adjustable from zero to any desired number of participants. A priority field **64** can also be provided and functions similar to the priority indicators described above. Thus, in the embodiment illustrated, if there exists a communication from one of the first three race leaders, and that team was not otherwise selected from the list **52**, the communication will be played over the speaker of the remote computer **42** and the unique identifier **54** will be highlighted or otherwise identified to the remote fan in the list **52**.

Current race statistics identifying the position of each of the race positions of the cars **12-18** can be provided as an input to the server **36**, as indicated at **65**. Based on the race statistics, the server **36** or the remote computer **42** can determine if a communication from a particular team meets the criteria of field **60**.

In yet a further embodiment, the user interface **50** allows the remote fan to choose which team members of each team to listen to if a communication exists. In the embodiment illustrated, upon selection of the unique identifier **54** for a particular participating team, a list **70** listing the team members communicating on a team channel is provided. Typically, the team members include a driver **72**, a team member **74** located in the pit area **28** and one or more spotters **76** also communicating on the team channel. The list also includes corresponding selectable portions **78** for each of the team members **72**, **74** and **76** communicating on the team channel. By using an input device, such as a mouse, the remote fan can select which team members **72**, **74** and **76** of each team to listen to while filtering out communications of unwanted team members from that team. This feature is particularly useful at some race events where communications from spotters occur frequently; however, the information may not be particularly interesting to the race fan. By allowing the remote fan to select those communications of each team that he is interested in and filter out communications from other team members, audio heard from the race event **10** can be more enjoyable.

In the embodiment illustrated, the unique identifier **54** corresponds to the team member in the list **70** when that communication is being heard over the speaker of the remote computer **42**. Thus, when the driver is being heard over the speaker, his/her name will appear flashing, highlighted or in bold in the list **52** as illustrated with respect to car number **64**. Likewise, when the team member in the pit area is being heard, a suitable designation such as "PIT" will appear in conjunction with the car number.

In a further embodiment, some or all team communications can be stored for later playing. For instance, as explained above, priorities can be set so that some team communications will be heard over others. In the event, overlap exists in the communications such that one team is not heard because another team communication is being heard, the former communication audio signals can be stored (either at the server or at the remote listener's computer, discussed below) so that the listener can hear the communication at a later time. Any overlapping communications can be stored in this manner.

If desired, list **52** can include an identifier **53** that indicates a stored communication of the corresponding team. The identifier **53** can also indicate the team member speaking, for example, "D" for driver, "P" for pit, etc. In FIG. **2**, a table **55** can be accessed indicating all of the stored communications for that team. The listener can then indicate which communication to play from the table **55**. The indications in the table **55** can also include a time stamp or other signifier (e.g. a lap identifier for that team or referenced to the race leader) to give the listener information as to when the communication was made. The listener can individually play each desired communication, or alternatively, playback can begin with that communication and continue with other communications from other members of that team within a selected duration (from the first identified communication or from last played communication), which can be adjusted if desired at **57**.

In one mode of operation, the stored communication can be played automatically when there are currently no other selected teams communicating. In another mode of operation, the listener can indicate playing when the listener desires, for instance, by activating the identifier through an input device such as a mouse. If during playback, a higher priority communication is received, the higher priority communication can be played immediately or stored automatically for later playback.

FIG. **3** illustrates communication between the team members of the team comprising car **12**, the team member **12A** in the pit area **28** and the spotter **12B**. As stated above, the communications of these team members is herein considered a channel. To identify each of the team members in order to allow filtering using the list **70**, suitable analog or digital identifiers are associated with the communications from each of the team members. For instance, if the team members communicate over a digital channel, a unique digital tag can be associated with the driver of car **12**, the team member **12A** in the pit area **28** and the spotter **12B**. Based on the digital tag, the communication from that team member is played over the speaker of the remote computer **42** if that particular member has been selected in the list **70** of that team. In another embodiment, each of the team members can transmit on their own unique carrier frequency, but be able to receive communications from the other team members which are also transmitting on unique frequencies. In this manner, if a communication exists on a frequency corresponding to a team member selected in the list **70**, that communication would be heard over the speaker of the remote computer **42**. In this embodiment, although unique frequencies have been assigned to each of the team members, that set of unique frequencies is considered a team channel.

FIGS. **1** and **4** illustrate other information that can be transmitted to a remote fan using the system of the present invention. FIG. **4** is a display or monitor **100** at the remote computer **42**. During the race, the monitor **100** displays identifiers **102** for each of the participants, for example, those selected in the list **52**. The identifiers **102** can be continuously provided on the display **100** or selected and displayed at the control of the remote fan. A major portion **104** of the monitor **100** can show the picture currently being received from the television broadcaster. As stated above, this signal can be provided to the server **36** as indicated at **67** or to the remote computer **42** as indicated at **69**. In addition to the television broadcaster's view of the race event **10**, one or more of the race cars **12-18** can be equipped with cameras as is commonly known in the art. Each of the signals from the cameras in the race cars **12-18** can be provided to the server **36** as indicated at **106**. With the views of each of the cars **12-18** provided to the server **36**, the remote fan can select one or more views

from the car views **106** as he desires with the remote computer **42**. In the embodiment illustrated, a portion **108** of each identifier **102** is identified as a "car view" for that particular car and is used to select the car view for display on the monitor **100**. The selected car view then can be displayed in a portion **110** of the monitor **100** in conjunction with the view provided by the television broadcaster. If desired, the car view can be expanded to cover all of the monitor **100**. In another embodiment, each of the car views can be provided in a list, similar to the list **52** illustrated in FIG. **2**, and selected when desired by the remote fan.

In a further embodiment, the server **36** receives telemetry signals from each of the cars **12-18** indicating, for example, the speed of the car, the engine speed of the car, the current gear and when brakes are applied. This information is provided to the remote computer **42** and displayed on the monitor **100** such as indicated at **112**. In the embodiment illustrated, the telemetry signals are received by the radio receiver **34**. The remote fan selects which telemetry signals to display. In the embodiment illustrated, a portion **114** is provided for each of the identifiers **102** to select the corresponding telemetry signals of each car. If desired, a list similar to the list **52** described above, can be separately provided for the selection of telemetry signals.

In a further embodiment, team statistics can be separately selected and displayed when desired. In the embodiment illustrated, the statistics are selected through a portion **116** of each of the identifiers **102**. The team statistics can include, for example, the participant's current position in the race, the top speed obtained during the race, the average speed during the race, the average speed for the last five laps, the pit times during the race and the average time in seconds behind the leader. These unique statistics for each of the teams are displayed on the monitor **100** when selected by the user using the remote computer **42**. Each of the team statistics are provided to the server **36** as indicated at **65** and updated as necessary during the race.

FIG. **5** illustrates an exemplary server **36** for transmission of race information, discussed above, through the wide area network **40** to the remote computers **42**. The server **36** includes a processing module **120** that receives any or all of the audio signals **38** and stores the signals if necessary, the telemetry signals, the race statistics **65**, the car views **106** and the television feed **67**. The processing module **120** processes the information for transmission to the remote computers **42**, which typically includes digitizing the signals and forming the digitized data into data packets that are sent through the wide area network **40** to the remote computers **42** through a transmission module **122**. The use of transmitted data packets, which can be sent individually, or grouped as files, to provide substantially continuous viewing and/or listening from a remote location over the Internet is well known. One manufacturer using such technology includes RealNetworks, Inc. of Seattle, Wash., which produce REALAUDIO and REALVIDEO. These systems allow a user of a remote computer to select a particular "audio station" or "video station" from a server across the Internet. A data stream is then transmitted to the user whereat a receiving module provided on the user's computer converts the data stream for display through the monitor and/or output through the speaker.

In one embodiment of the present invention, the processing module **120** processes the information into data packets that include information for at least two different audio, video or telemetry signals for different teams. Referring to FIG. **6**, an exemplary data packet **140** for audio signals is illustrated. It should be understood that the embodiment shown is for illus-

trative purposes only and that other data packets having alternative structures can be used in the present invention.

The data packet **140** includes portions **142, 143, 144, 145, 146, 147** and **148** corresponding to each of the team channels for the cars **12-18**, respectively. In particular, the values contained in portions **142-148** are indicative of communication between the team members for each respective team. In the embodiment illustrated, analog-to-digital converters **149** are provided to convert the audio signals **38** to digital values, which are provided to the processing module **120**. Of course, if the audio signals are digital, the analog-to-digital converters are not required. The processing module **120** receives the digital values and forms data packets **140** that are transmitted to the remote computer through the wide area network **40**. In the exemplary embodiment, the length of the data packet **140** is a function of the number of team channels present. Typically, the length of the data packet **140** will be limited by the throughput of the connections forming the wide area network **40**. In some situations, it may be necessary to form the different data packets for different sets of teams. The remote computer user would then select which stream of data packets to receive. This is represented in FIG. **5** as data lines **150A, 150B, 150C** and **150D**. For example, data packets for data line **150A** can be for a first set of five preselected team channels, whereas data packets for data lines **150B** and **150C** can be for a second and third set of preselected team channels. In contrast, data packets for data line **150D** can be for team channels dynamically selected. For example, the team channels present in data line **150D** can be the top five cars leading the race, wherein the processing module **120** forms the data packets for data line **150D** from the race statistics **65**. Alternatively, the team channels present in data line **150D** can be chosen based on other criteria including requests made by the remote computers **42**.

In a further embodiment, the data packet **140** includes a portion **160** having subportions **162, 163, 164, 165, 166, 167** and **168** corresponding to each of the portions **142-148**. In particular, the values present in subportions **162-168** are used to identify the particular team member of each team that is talking during the instant of time that the data packet **140** represents. As explained above, a race team can include a driver, a pit member and a spotter. The unique value is associated with each of these members and used in the portions **162-168** to identify the team member that is talking. In effect, the portions **162-168** comprise identifiers or tags for each of the portions **142-148**. In one exemplary embodiment, one or two bytes can be used for each of the portions **142-148**, whereas one or two bytes can be used for the portion **150** wherein two bits are associated with each portion **162-168**.

In the data packet **140** described above, each team is identified by its position in the data packet. It should be understood that further information can be transmitted to the remote computer **42** so that the remote computer **42** can properly determine which teams comprise the data packet. Even in the case of data line **150D**, the server **36** can transmit information to the remote computers **42** indicating which teams currently comprise the corresponding data packets. In this manner, unique identifiers need not be associated with each team or team member as data is transmitted, which reduces the amount of data transmitted. However, in an alternative embodiment of the present invention, identifiers can be associated with each data packet identifying which teams and/or team members are associated with each corresponding data packet. This allows the data packet to only contain teams currently communicating at any given instant. Accordingly, the data packets can be of varying length. Although described above with respect to team audio signals, it should be understood other audio signals such as the television feed **67** can be included. In addition, similar data packets can be formed for video and telemetry information, or alternatively, integrated into the data packet with the audio signals. Compression techniques can be used to minimize the length of the data packet, if desired.

In yet a further alternative embodiment, each data packet can be for only one team channel or team member. Identifiers can be included to identify which team or team member the data packet is associated with. If desired, any of the above-described data packets can be transmitted using multiplex transmission communication techniques incorporating, but not limited to, time division, frequency division or phase division.

Referring to FIG. **7**, the remote computer **42** includes a receiver module **170**. The receiver module **170** receives the data packets and processes the information contained therein. The receiver module **170** receives the data packets according to any of the transmission techniques described above. In one embodiment, the receiver module **170** functions as a filter and only allows those teams that have been selected (check **56**) to be heard over a speaker **174**. The selections can be stored at **175**. In a further embodiment, the selections **175** can include priority and team member selections. The receiver module **170** processes each data packet according to the assigned priority and team members to be heard, as discussed above. The signals can be stored for later playback when desired.

Race statistics **65** are periodically transmitted from the server **36** to the remote computer **42** and stored at **176**. The race statistics **176** are accessed by the user for display on a monitor **177** as desired and used to assign priority in accordance with values selected at **62** and **64** in FIG. **2**.

In another embodiment, at least some of the filtering is performed by the server **36**. For example, data line **150D** represents transmission of audio signals for a selected number of teams leading the race. Thus, although the server **36** receives all communications from the receiver **32**, only those communications pertaining to the selected number of leading teams are transmitted to the receiver module **170**. In this embodiment, the receiver module **170** can pass all communications to the speaker **174**, or, if desired, further filter the communications pursuant to stored preferences.

In one preferred method of operation, the receiver module **170** can be used for a plurality of race events. In particular, information regarding each of the teams for use in the user interface **50** and display of FIG. **4** is provided to the remote computer **42** over the wide area network **40**, for example, from the server **36** or another remote computer, and stored at **178**. The remote computer user then selects those audio channels of interest, assigning priority levels and choosing which team members will be heard, if desired. Data packets and race statistics are received periodically. As data packets are received and processed, the user interface **50** or display of FIG. **4** is updated to indicate which audio channel and/or team member is being heard over the speaker **174**.

If desired, more than one speaker **174** can be used for playing audio signals. FIG. **7** illustrates a second speaker **180**. In one embodiment, the speaker **180** is used for playing audio signals from a first set of one or more teams, while the speaker **174** is used for playing audio signals from a second set of one or more teams. Upon receipt of the data representative of the audio signals, the receiver module **170** filters the signals to each of the speakers **174** and **180**. In another embodiment, the speakers **174** and **180** can be used when assigned priority values would cutoff an audio signal being played through the speakers. For instance, if communications are currently being heard from a priority "2" team through the speaker **174** of the

remote computer **42** and communication starts for a priority "1" team, the audio being played over the speaker **174** can continue, while the communication from the priority "1" team will be played over the speaker **180**. Although described with respect to the use of two speakers, it should be understood that three, four or more speaker systems can be used similarly.

Although the present invention has been described with reference to preferred embodiments, workers skilled in the art will recognize that changes may be made in form and detail without departing from the spirit and scope of the invention.

What is claimed is:

1. A computer-implemented method to allow a computer user to listen to teams in a race event, the method comprising:
   receiving over a network audio signals at a remote computer remote from the race event from a plurality of audio sources at the race event wherein the audio sources comprise team members of each of the teams;
   receiving over the network information related to at least some of the audio sources at the remote computer, the information being other than audio communications of the audio sources;
   receiving an indication that a user of the remote computer wants to prioritize and listen to audio communications on the remote computer of team members of a team leading the race event as the team leading the race event changes during the race event; and
   rendering audio communications of the team members of the team leading the race event at the remote computer as the team leading the race event changes during the race event.

2. The computer-implemented method of claim **1**, wherein the race event comprises a vehicle race event, the method further comprising receiving at the remote computer visual data indicative of moving vehicles on a track at the vehicle race event showing relative positions of corresponding vehicles of at least two teams.

3. The computer-implemented method of claim **2**, wherein the visual data corresponds to an image of the track with vehicles, as seen from behind, moving in front of a vehicle traveling on the track.

4. The computer-implemented method of claim **3** wherein the information related to at least some of the audio sources comprises data indicative of performance of a team relative to the team leading the race event.

5. The computer-implemented method of claim **4** wherein the data indicative of performance of the team comprises time in seconds behind the team leading the race.

6. The computer-implemented method of claim **5** wherein the data indicative of performance of the team comprises a pit time.

7. The computer-implemented method of claim **6** wherein the data indicative of performance of the team comprises when brakes of the vehicle of the team are applied.

8. The computer-implemented method of claim **1** wherein the network comprises an Internet and each step comprising receiving data being audio signals and information comprises receiving data over the Internet.

9. A computer connected to a network to receive data from and transmit data to a plurality of remote computers, the computer configured to:
   receive audio signals from a plurality of audio sources at a vehicle race event when audio signals from at least two different audio sources occur at the same time, and wherein the audio sources comprise team members of each of the vehicle teams;

   receive an indication from the network that each of a plurality of users wants to prioritize and listen to audio communications of team members of a team leading the vehicle race event as the team leading the vehicle race event changes during the vehicle race event;
   transmit to each of said users data over the network indicative of audio communications of the team members of the team leading the vehicle race event as the team leading the vehicle race event changes during the vehicle race event; and
   transmit to each of said users visual data over the network indicative of moving vehicles on a track at the vehicle race event showing relative positions of corresponding vehicles of at least two teams.

10. The computer of claim **9**, wherein the visual data corresponds to an image of the track with vehicles, as seen from behind, moving in front of a vehicle traveling on the track.

11. The computer of claim **9** further configured to receive from each of said users an indication of a selected team and transmit to each of said users: data indicative of the time in seconds the selected team is behind the team leading the race; data indicative of a pit time of the selected team; and data indicative of when brakes of a corresponding vehicle of the selected team are applied.

12. A computer-implemented method that allows a computer user to listen to teams in a race event, wherein each team comprises team members and each team member comprises an audio source at the race event, wherein audio signals from at least two different audio sources occur at the same time during the race event and data representative of the audio signals of the audio sources are on a server, the server being connected via a network to a remote computer remote from the server, the method comprising:
   receiving an indication that a user of the remote computer wants to prioritize and listen to audio communications on the remote computer of team members of a team leading the race event as the team leading the race event changes during the race event;
   receiving audio data from the server indicative of audio communications of the team members of the team leading the race event at the remote computer as the team leading the race event changes during the race event;
   using the remote computer and the audio data to render the audio communications of team members of the team leading the race event as the team leading the race event changes during the race event;
   receiving other data from the server indicative of other information related to at least some of the teams in the race event; and
   using the remote computer and the other data to visually render the other information to the user.

13. The computer-implemented method of claim **12**, wherein the race event comprises a vehicle race event, the method further comprising receiving visual data and visually rendering to the user using the visual data and the remote computer moving vehicles on a track at the vehicle race event showing relative positions of corresponding vehicles of at least two teams.

14. The computer of claim **13**, wherein the visual data corresponds to an image of the track with vehicles, as seen from behind, moving in front of a vehicle traveling on the track.

15. The computer-implemented method of claim **12** wherein the other information is indicative of performance of a team relative to the team leading the vehicle race event.

16. The computer-implemented method of claim **15** wherein the other information that is indicative of perfor-

mance of the team comprises a time in seconds the team is behind the team leading the race.

17. The computer-implemented method of claim **16** wherein the other information that is indicative of performance of the team comprises a pit time.

18. The computer-implemented method of claim **17** wherein the other information that is of performance of the team comprises when brakes of the vehicle of the team are applied.

19. The computer-implemented method of claim **12** and further comprising:

   receiving an indication that the user wants to listen to audio communications of team members of another team; and

   using the remote computer to render to the user audio communications of team members of said another team.

20. The computer-implemented method of claim **19** wherein the audio communications of the team members of said another team comprise a team different than the team leading the race.

21. The computer-implemented method of claim **19** and further comprising:

   receiving an indication that the user wants to listen to race commentary; and

   using the remote computer to render to the user the race commentary.

22. The computer-implemented method of claim **12** and further comprising visually rendering to the user an indication of which team is associated with the audio communications being rendered.

23. The computer-implemented method of claim **12** wherein the network comprises an Internet and the steps of receiving the indication, receiving the audio data and receiving the other data comprises receiving data over the Internet.

24. A computer device to obtain information of teams in a vehicle race event over a network, the computing device comprising:

   a speaker;

   a monitor; and

   a processor operably coupled to the speaker, the monitor and the network, the processor configured to:

      receive an indication that a user of the computing device wants to prioritize and listen to audio communications of team members of a team leading the vehicle race event as the team leading the vehicle race event changes during the vehicle race event;

      receive audio data from the network indicative of audio communications of the team members of the team leading the vehicle race event as the team leading the vehicle race event changes during the vehicle race event;

      render with the speaker the audio communications of team members of the team leading the vehicle race event over the speaker as the team leading the vehicle race event changes during the vehicle race event;

      render a visual identifier on the monitor of the team leading the vehicle race event as the team leading the vehicle race event changes during the vehicle race event; and

      visually render on the monitor moving vehicles on a track at the vehicle race event showing relative positions of corresponding vehicles of at least two teams.

25. The computer device of claim **24**, wherein the processor is further configured to visually render on the monitor moving vehicles, as seen from behind, moving in front of a vehicle traveling on the track.

26. The computer device of claim **24** wherein the processor is further configured to receive an indication of a selected

team and visually render on the monitor the time in seconds the selected team is behind the team leading the race; a pit time of the selected team; and when brakes of a corresponding vehicle of the selected team are applied.

27. The computer device of claim **24** wherein the processor is further configured to receive an indication to render audio communications of team members of another team; and wherein the processor is further configured to render audio communications of team members of said another team.

28. The computer device of claim **27** wherein the audio communications of the team members of said another team comprise a team different than the team leading the race.

29. A computer-implemented method to allow a user to listen to teams in a race event, the method comprising:

   receiving from the user an indication of at least one highest priority team that the user of a computing device wants to hear over other teams;

   receiving priority audio data indicative of audio communications between said at least one highest priority team that the user of the computing device wants to hear over other teams at the race event;

   audibly rendering to the user the audio communications between said at least one highest priority team that the user of the computing device wants to hear over other teams at the race event using the priority audio data and the computing device;

   receiving first data indicative of audio communications between a first team at the race event, the first team not being said at least one highest priority team that the user of the computing device wants to hear over other teams at the race event, the audio communications between the first team occurring during the audio communications between said at least one highest priority team that the user of the computing device wants to hear over other teams at the race event;

   after audibly rendering to the user communications between said at least one highest priority team that the user of the computing device wants to hear over other teams at the race event, audibly rendering to the user the audio communications between the first team using the first data and the computing device;

   receiving at the computing device other data indicative of other information related to at least some of the teams in the race event; and

   using the computing device and the other data to visually render the other information to the user.

30. The computer-implemented method of claim **29** each step comprising receiving data comprises receiving data over an Internet.

31. The computer-implemented method of claim **29** and further comprising rendering to the computing device user an identifier corresponding to the team that corresponds to the audio communications being rendered.

32. The computer-implemented method of claim **31** wherein rendering to the computing device user the identifier comprises visually rendering to the computing device user the identifier.

33. The computer-implemented method of claim **29** wherein the computing device comprises a personal computer.

34. The computer-implemented method of claim **29** and further comprising: visually rendering on the computing device indications of communications for one or more teams that occurred earlier during the race event are available for rendering.

35. The computer-implemented method of claim **29** and wherein the other data corresponds to moving vehicles on a

13

track at the race event showing relative positions of corresponding vehicles of at least two teams and using the computing device to visually render the other data occurs while audibly rendering audio communications.

36. The computer-implemented method of claim 35 and further comprising receiving an indication from the user as to which image of the race to visually render.

37. The computer-implemented method of claim 36 and further comprising visually rendering an identifier of the team corresponding to the audio communications being audibly rendered.

38. The computer-implemented method of claim 36 wherein visually rendering comprises visually rendering an image of the track from inside a vehicle traveling on the track.

39. The computer-implemented method of claim 29 and wherein the other information comprises performance of a team during the race.

40. The computer-implemented method of claim 39 and wherein the other information comprises performance of the team during the race relative to a team leading the race.

41. The computer-implemented method of claim 39 and wherein the other information comprises a pit time.

42. The computer-implemented method of claim 29 wherein receiving from the user the indication of at least one highest priority team that the user of the computing device wants to hear over other teams comprises receiving an indication of which team is a highest priority team, which team is a second highest priority team and which team is a third highest priority team.

43. The computer-implemented method of claim 42 wherein the priority audio data comprises audio communications from one of the second highest priority team or the third highest priority team, and wherein when audio communications from the highest priority team exist while audibly rendering the audio communications from one of the second highest priority team or the third highest priority team stop rendering the audio communications from said one of the second highest priority team or the third highest priority team and begin audibly rendering the audio communications from the highest priority team.

44. The computer-implemented method of claim 29 wherein each of the steps of receiving data comprises receiving said data from a server over a network.

45. The computer-implemented method of claim 44 wherein the network comprises a wide area computer network or an Internet.

46. A computing device to render information of teams in a vehicle race event, the computing device comprising:
a speaker;
a monitor; and
a processor operably coupled to the speaker and the monitor, the processor configured to:
  receive an indication of at least one highest priority team that a user of the computing device wants to hear over other teams;
  audibly render over the speaker audio communications between said at least one highest priority team that the user of the computing device wants to hear over other teams at the vehicle race event;
  after audibly rendering audio communications between said at least one highest priority team that the user of the computing device wants to hear over other teams at the vehicle race event, audibly render over the speaker audio communications between a first team that occurred at the same time during the vehicle race event as the audio communications between said at

14

least one highest priority team that the user of the computing device wants to hear over other teams at the vehicle race event;
  while rendering each of the audio communications, render a visual identifier on the monitor of the team corresponding to the audio communications being rendered;
  render a first image of the vehicle race event on the monitor; and
  render a second image on the monitor related to performance of a team during the race.

47. The computing device of claim 46 wherein the processor is configured to visually render on the monitor indications of communications that occurred earlier during the vehicle race event that are available for rendering, wherein an indication is rendered for each of a plurality of the teams.

48. The computing device of claim 46 and wherein the second image on the monitor related to performance of the team during the race comprises performance of a team during the race relative to a team leading the race.

49. The computing device of claim 46 and wherein the second image on the monitor related to performance of the team during the race comprises a pit time.

50. A system to allow a user to listen to audio sources in a race event, the system comprising:
a processing module configured to receive communications from audio sources at a race event, the communications comprising communications between teams in the race; and
a plurality of computing devices, each computing device configured to receive data from the processing module, each computing device comprising:
  a user interface;
  a monitor;
  a speaker; and
  a processor operably coupled to the interface, the monitor and the speaker, the processor configured to:
  receive from the user an indication of at least one highest priority team that a user using a computing device wants to hear over other teams,
  audibly render to the user over the speaker communications between a first team, the first team not being said at least one highest priority team that the user of the computing device wants to hear over other teams at the race event,
  when communications between said at least one highest priority team that the user of the computing device wants to hear over other teams at the race event occur stop rendering communications between the first team and start audibly rendering to the user communications between said at least one highest priority team that the user of the computing device wants to hear over other teams at the race event, and
  audibly render to the user communications between the first team after audibly rendering to the user communications between said at least one highest priority team that the user of the computing device wants to hear over other teams at the race event, the communications between the first team occurring when the communications between said at least one highest priority team that the user of the computing device wants to hear over other teams at the race event were rendered, and
  visually render on the corresponding monitor a list of the teams having communications that occurred earlier in the race event.

51. The system of claim **50** wherein the processor of each computing device is configured to visually render moving vehicles on a track at the race event showing relative positions of corresponding vehicles of at least two teams while audibly rendering communications.

52. The system of claim **51** wherein the moving vehicles on the track is an image of the race corresponding to a view from a car.

53. The system of claim **52** wherein the processor of each computing device is further configured to visually render race statistics of the race.

54. The system of claim **53** wherein the race statistics comprise information about a team's performance relative to a leader of the race.

55. The system of claim **50** wherein the processor of each computing device is configured to receive from the user an indication that the first team is a priority team that the user wants to hear over other teams, the first team having a priority less than said at least one highest priority team.

56. The system of claim **55** wherein the processor of each computing device is configured to receive an indication from the user that a third team is a priority team that the user wants to hear over other teams, the third team having a priority less than said at least one highest priority team and said first team.

57. A computing device to render information of teams in a vehicle race event, the computing device comprising:
   a speaker;
   a monitor;
   a user interface;
   a storage device configured to store audio communications of teams; and
   a processor operably coupled to the speaker, the monitor, the user interface and the storage device, the processor configured to:
      receive from the user interface inputs corresponding to a first team, a second team and a third team that a user of the computing device wants to hear over other teams;
      audibly render over the speaker audio communications of said first team;
      after audibly rendering audio communications of said first team, audibly render over the speaker audio communications stored in memory of the second team that occurred earlier in the vehicle race event; and
      render a visual identifier on the monitor of the team corresponding to the audio communications being rendered.

58. The computing device of claim **57** wherein the processor visually renders on the monitor indications of team communications that occurred earlier during the vehicle race event that are available for rendering, wherein an indication is rendered for each of a plurality of the teams.

59. The system of claim **57** wherein the processor is further configured to visually render race statistics of the race.

60. The system of claim **59** wherein the race statistics comprise information about a team's performance relative to a leader of the race.

61. The computing device of claim **60** and wherein the processor is further configured to visually render a pit time of a team during the race.

62. The computing device of claim **59** and wherein the processor is further configured to visually render an image of the race on the monitor while rendering audio communications.

63. The computing device of claim **62** and wherein the processor is configured to receive from the user interface an indication from the user as to which image of the race to visually render.

64. A computer-implemented method to allow a user to listen to teams in a race event, the method comprising:
   receiving from the user an indication of at least one highest priority team that the user of a computing device wants to hear over other teams;
   audibly rendering to the user the audio communications between said at least one highest priority team that the user of the computing device wants to hear over other teams at the race event using audio data and the computing device;
   storing first data indicative of audio communications between a first team at the race event, the first team not being said at least one highest priority team that the user of the computing device wants to hear over other teams at the race event, the audio communications between the first team occurring during the audio communications between said at least one highest priority team that the user of the computing device wants to hear over other teams at the race event;
   after audibly rendering to the user communications between said at least one highest priority team that the user of the computing device wants to hear over other teams at the race event, audibly rendering to the user the audio communications between the first team using the first data and the computing device; and
   visually rendering other information related to at least some of the teams in the race event.

65. The computer-implemented method of claim **64** wherein receiving from the user the indication of at least one highest priority team that the user of the computing device wants to hear over other teams comprises receiving an indication of which team is a highest priority team, which team is a second highest priority team and which team is a third highest priority team.

66. The computer-implemented method of claim **65** and further comprising visually rendering an identifier of the team corresponding to the audio communications being audibly rendered.

67. A computer-implemented method to allow a user to listen to teams in a race event, the method comprising:
   receiving from a user interface of a computing device an indication of at least one highest priority team that the user of the computing device wants to hear over other teams;
   audibly rendering to the user through a speaker of the computer device the audio communications between said at least one highest priority team that the user of the computing device wants to hear over other teams at the race event using audio data and the computing device;
   storing in a storage device second audio data to be rendered to the user, the second audio data occurring during the audio communications between said at least one highest priority team that the user of the computing device wants to hear over other teams at the race event; and
   after audibly rendering to the user communications between said at least one highest priority team that the user of the computing device wants to hear over other teams at the race event, rendering the second audio data to the user with the computing device through the speaker of the computing device.

68. The computer implemented method of claim **67** wherein the second audio data comprises commentary related to the race event.

69. The computer implemented method of claim **67** and further comprising visually rendering through a display other information related to at least some of the teams in the race event.

70. The computer implemented method of claim **67** wherein the second audio data comprises communications of second team, the communications of the second team being other than the audio communications between said at least one highest priority team.

71. A computing device to render information of teams in a vehicle race event, the computing device comprising:

a speaker;

a display;

a user interface;

a storage device configured to store audio communications of teams; and

a processor operably coupled to the speaker, the display, the user interface and the storage device, the processor configured to:

receive from the user interface an indication of at least one highest priority team that the user of a computing device wants to hear over other teams;

audibly render to the user through the speaker the audio communications between said at least one highest priority team that the user of the computing device wants to hear over other teams at the race event using audio data and the computing device;

store in the storage device second audio data to be rendered to the user, the second audio data occurring during the audio communications between said at least one highest priority team that the user of the computing device wants to hear over other teams at the race event; and

after audibly rendering to the user communications between said at least one highest priority team that the user of the computing device wants to hear over other teams at the race event, render the second audio data to the user through the speaker.

72. The computing device of claim **71** wherein the second audio data comprises commentary related to the race event.

73. The computing device of claim **71**, wherein the processor is further configured to visually render through the display other information related to at least some of the teams in the race event.

74. The computing device of claim **71** wherein the second audio data comprises communications of a second team, the communications of the second team being other than the audio communications between said at least one highest priority team.

75. A computer implemented method to provide information of teams in a vehicle race event to a plurality of remote computers, the method comprising:

receiving from each of the remote computers an indication of an audio source associated with at least one highest priority team that the user of each remote computer wants to hear over other teams;

transmitting to each of said remote computers the audio data corresponding to the indication of the audio source associated with the at least one highest priority team that the user of each remote computer wants to hear over other teams;

storing in a storage device audio data from the audio sources at the vehicle race event;

after transmitting to each of said remote computers the audio data corresponding to the indication of the audio source associated with the at least one highest priority team that the user of each remote computer wants to hear over other teams, receive from each of the remote computers a second indication that the user of each remote computer wants to hear audio data that occurred during the audio data of each of said respective audio source

associated with the at least one highest priority team that the user of each remote computer wants to hear over other teams; and

transmitting to each of said remote computers video data corresponding to a selected camera view from a plurality of camera views that the user of each remote computer wants to view in the race event.

76. The computer-implemented method of claim **75**, wherein at least some of the audio data corresponding to each respective second indication from each of the remote computers comprises commentary related to the race event or audio communications of a team being other than audio communications between each respective said at least one highest priority team.

77. The computer-implemented method of claim **75**, wherein transmitting to each of said remote computers video data comprises transmitting a plurality of camera views occurring at the same time for simultaneous rendering on each the remote computers.

78. The computer-implemented method of claim **77**, and further comprising transmitting data to visually render performance of a team relative to the team leading the race event.

79. A computing system to provide information of teams in a vehicle race event to a plurality of remote computers, the computing device comprising:

a storage device configured to store audio data from audio sources at the vehicle race event; and

a processor operably coupled to the storage device and a network connected to each of the remote computers, the processor configured to:

receive from each of the remote computers an audio source associated with at least one highest priority team associated with a team that the user of each remote computer wants to hear over other teams;

transmit to each of said remote computers the audio data corresponding to the indication of the audio source associated with at least one highest priority team that the user of each remote computer wants to hear over other teams;

store in the storage device audio data from the audio sources at the vehicle race event;

after transmitting to each of said remote computers the audio data corresponding to the audio source associated with at least one highest priority team that the user of each remote computer wants to hear over other teams, receive from each of the remote computers a second indication that the user of each remote computer wants to hear audio data that occurred during the audio data of each of said respective audio source associated with at least one highest priority team that the user of each remote computer wants to hear over other teams;

transmit to each of remote computers audio data corresponding to each respective second indication from each of the remote computers; and

transmit to each of said remote computers video data corresponding to a selected camera view from a plurality of camera views that the user of each remote computer wants to view in the race event.

80. The computing system of claim **79** wherein at least some of the audio data corresponding to each respective second indication from each of the remote computers comprises commentary related to the race event or audio communications of a team being other than audio communications between each respective said at least one highest priority team.

81. The computing system of claim **79** wherein the processor is configured to transmit a plurality of camera views occurring at the same time for simultaneous rendering on each the remote computers.

82. The computing system of claim **81**, wherein the processor is further configured to transmit data to visually render performance of a team relative to the team leading the race event.

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